

TABLE OF CONTENTS

CHAPTER 1

1.0 PURPOSE AND NEED	1
1.1 PROPOSED PROJECT	1
1.2 PURPOSE.....	3
Transportation Needs	4
Maintenance Needs.....	12
Environmental Needs.....	12
Needs of Existing and Planned Land Uses	15
1.3 PROJECT OBJECTIVES.....	16
Transportation Objectives	16
Maintenance Objectives.....	16
Environmental Objectives.....	16
Land Use and Recreation Objectives.....	16

LIST OF TABLES

Table 1-1. Accident Summary by Year (January 1992 through December 2001)	4
Table 1-2. Average Accident Rates	6
Table 1-3. Baseline (2001) Traffic.....	7
Table 1-4. Estimated 2026 Traffic Volumes.....	8

LIST OF FIGURES

Figure 1-1. Project Location Map.....	2
Figure 1-2. Distribution of Reported Traffic Accidents	5
Figure 1-3. Forest Service Loop Road.....	9
Figure 1-4. FEMA 100-year Floodplain	10
Figure 1-5. Vertical Profile of Fernan Lake Road	11

1.0 PURPOSE AND NEED

This Draft EIS for the Fernan Lake Road Safety Improvement Project documents an analysis of the potential environmental consequences of proposed road reconstruction and maintenance in Kootenai County near Coeur d’Alene, Idaho. Development of three build alternatives and the No Action Alternative are summarized in Chapter 2. Existing conditions, environmental consequences of the alternatives, and proposed mitigation to avoid or reduce impacts are discussed together in Chapter 3.

The analysis in this EIS complies with provisions of NEPA. FHWA determined that the proposed project may likely “significantly affect the quality of the human environment” based on a review of the project relative to environmental issues and concerns, including those provided by the public. Therefore, an EIS is being prepared instead of an Environmental Assessment.

This EIS has been prepared in compliance with FHWA’s Environmental Impact and Related Procedures (23 CFR 771). These procedures are further described in FHWA guidebooks and manuals (FHWA, 1996, 1999a, 1999b). USDA Forest Service (FS) environmental procedures (FS, 1992) are followed concurrently, and IPNF is the cooperating agency in the federal NEPA process.

FHWA has issued this Draft EIS for public comments, which will be considered in preparing the Final EIA. After the Final EIS is issued, FHWA will select one build alternative, a combination of the build alternatives, or the No Action Alternative. The final selection will be documented by FHWA in a ROD issued at least 30 days after the Final EIA is published.

1.1 PROPOSED PROJECT

FHWA and the partner agencies propose to reconstruct or resurface 17.2 km (10.7 mi) of Idaho Forest Highway 80 (ID FHP 80), which is commonly known as Fernan Lake Road. Reconstruction within the existing road corridor is proposed for all or most of Segments 1 and 2, depending on the build alternative selected, whereas maintenance resurfacing is proposed for Segment 3 within the IPNF boundary (Figure 1-1). The proposed project begins approximately 0.7 km (0.4 mi) northeast of the Sherman Avenue interchange (Exit 15) with Interstate 90 (I-90). Project milepost (MP) 0.0 is located at the intersection of Fernan Lake Road with Lakeview Drive and Fernan Court.

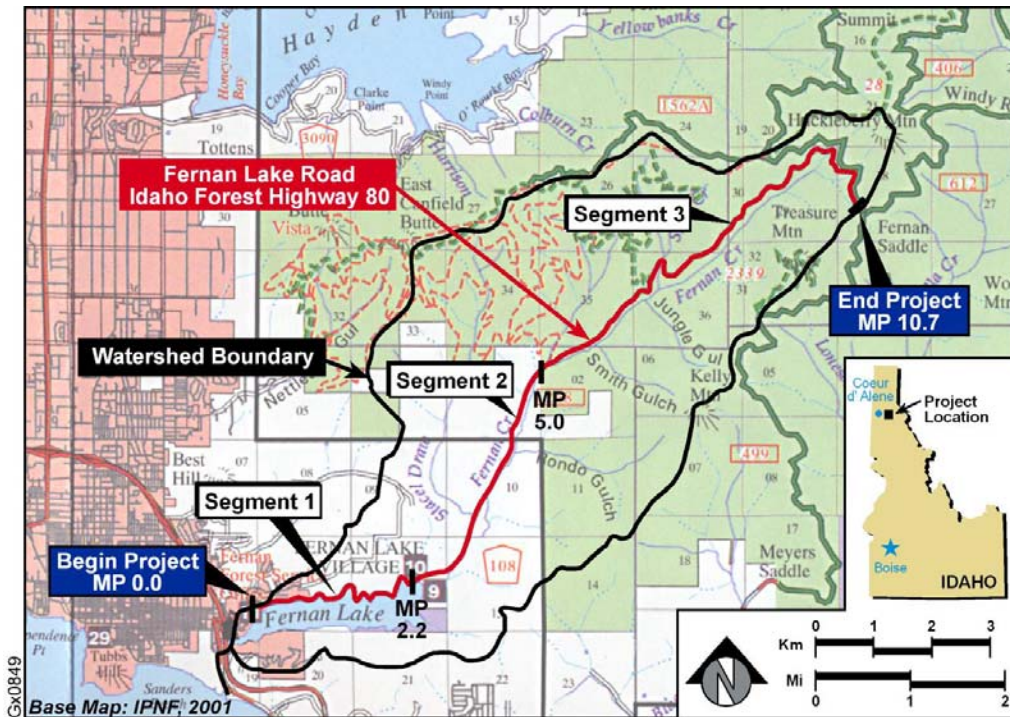


Figure 1-1. Project Location Map

Segment 1 of the existing road winds along the north shore of Fernan Lake, then crosses Lilypad Bay in the northeast part of the lake, and ends at MP 2.2 just east of a boat launch at the east end of the lake. Reconstruction being analyzed in this segment includes improved alignment and grade, curve widening, minor road or shoulder widening, guardrails, and bridge construction across Lilypad Bay.

Segment 2 extends northeastward up the broad lower valley of Fernan Creek and ends at MP 5.0 where IPNF management of National Forest System (NFS) lands begins. This segment is relatively straight and the majority of proposed reconstruction for all build alternatives is improved grade and subgrade to elevate the road above the regulated floodplain and to improve drainage.

Segment 3 winds mostly northeastward while climbing the relatively steep upper valley of Fernan Creek until ending at MP 10.7 where a large parking area has been developed on Fernan Saddle. All build alternatives would resurface this segment at the current road width and provide spot improvements, but without reconstructing the road or changing its alignment or grade.

If the ROD selects a build alternative by the end of 2004, then final design would be conducted in 2005 and 2006. Construction would begin in 2007 and is scheduled to take two years.

For all build alternatives the project would include:

- Constructing a new road surface composed of crushed aggregate base and asphalt concrete pavement.
- Installing adequate drainage structures.
- Installing sub-surface drainage features and subgrade stabilization measures.
- Widening the road in Segments 1 and 2 to accommodate current and projected vehicular and recreational use and necessary maintenance activities.
- Constructing new cut-slopes and retaining walls in Segments 1 and 2.
- Removing roadway built on fill areas in Lilypad Bay.
- Repairing and resurfacing the road in Segment 3 at its existing width.
- Improving parking areas and pullouts adjacent to the road.
- Upgrading signs, striping, guardrails, and other safety-related features.
- Implementing environmental commitments to reduce or mitigate environmental impacts.

1.2 PURPOSE

The three primary reasons to construct one of the build alternatives are:

- To maintain an efficient transportation link between the City of Coeur d'Alene and IPNF at Fernan Saddle that safely accommodates traffic projected through 2026.
- To upgrade stormwater treatment along Fernan Lake Road to protect water quality in Fernan Creek and Fernan Lake.
- To provide a roadway that can be reasonably maintained in a sustainable manner by ESHD.

The following sections describe the need for improvements to Fernan Lake Road that led to the proposed project. The need for improvements was identified by the partner agencies in nominating the road to the Forest Highway Program.

Transportation Needs

Safety Concerns

Fernan Lake Road is considered to have a dangerous mix of users. Bicyclists, pedestrians, cars, recreational vehicles, timber haulers, trucks, and buses all using the same narrow roadway. Safety hazards are created by a narrow road with sharp curves and a surface that is in poor condition (ITD, 1993).

Accident data from the ITD database was obtained to evaluate accident rates and to determine whether accidents occur more frequently in specific locations. The accident database listed 33 accidents between January 1, 1992, through December 31, 2001. Table 1-1 summarizes accident data by year.

The number of reported accidents per year ranged from none (1992) to eleven (2001). There may have been other, unreported accidents. Unreported accidents typically involve minor damage to vehicles and rarely involve injuries. Accident rates have been higher in more recent years, as use of the road has increased.

Table 1-1. Accident Summary by Year (January 1992 through December 2001)

Total					Segment 1				Segment 2				Segment 3			
Year	Sum	Fatal	Inj	PDO	Sum	Fatal	Inj	PDO	Sum	Fatal	Inj	PDO	Sum	Fatal	Inj	PDO
1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	2	0	1	1	1	0	1	0	1	0	0	1	0	0	0	0
1994	2	0	0	2	2	0	0	2	0	0	0	0	0	0	0	0
1995	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0
1996	6	0	3	3	4	0	3	1	2	0	0	2	0	0	0	0
1997	4	2	1	1	4	2	1	1	0	0	0	0	0	0	0	0
Total					Segment 1				Segment 2				Segment 3			
Year	Sum	Fatal	Inj	PDO	Sum	Fatal	Inj	PDO	Sum	Fatal	Inj	PDO	Sum	Fatal	Inj	PDO
1998	3	0	0	3	3	0	0	3	0	0	0	0	0	0	0	0
1999	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0
2000	3	0	0	3	3	0	0	3	0	0	0	0	0	0	0	0
2001	11	0	4	7	6	0	2	4	1	0	1	0	4	0	1	3
Total	33	2	11	20	23	2	7	14	6	0	3	3	4	0	1	3

Sources: ITD, 2001; State of Idaho, 2001.

PDO = Property damage only.

Almost 80 percent of accidents (26) were single-vehicle and were caused by the driver losing control and running off the road. Four of the seven multi-vehicle accidents involved one vehicle sideswiping another vehicle traveling in the opposite direction.

The severity of the accidents varied. About two-thirds of the accidents were non-injury accidents resulting in possible property damage. Of the 33 accidents, there were eleven

with injuries and two with a single fatality each. Both fatal accidents were caused by the driver losing control and/or running off the road.

Most of the time, climatic conditions were not a contributing factor to the accidents. In 70 percent of the accidents, the roadway surface was dry, and in 58 percent of those with known times, the accidents occurred during daylight hours.

More than half of the accidents on Fernan Lake Road occurred near sharp curves (Figure 1-2). Accident reports indicate that most of the accidents were caused by the driver exceeding the speed limit and/or traveling too fast for road conditions. In the accidents near sharp curves, it appears that drivers were unable to negotiate the curves at their speed. Segment 1, along the lake, had significantly higher accident rates than the two other segments of the road proposed for improvement, and rates higher than the statewide average for rural roads.

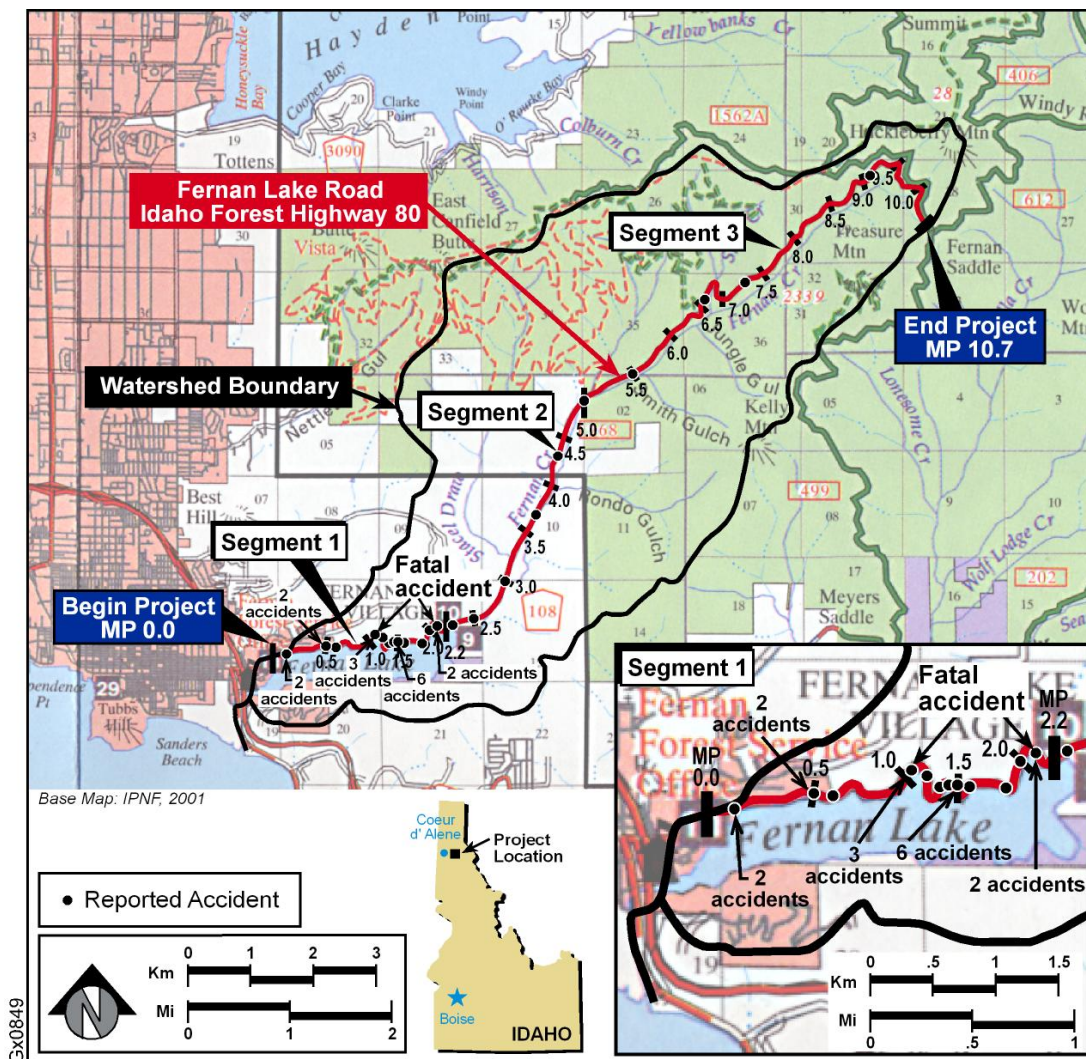


Figure 1-2. Distribution of Reported Traffic Accidents

Table 1-2 shows accident rates by segment in comparison to the statewide rate for rural roads.

Table 1-2. Average Accident Rates

Road Segment	Accident Rate	Injury Rate	Fatality Rate
Segment 1	5.32	1.47	0.50
Segment 2	0.78	0.78	0.00
Segment 3	1.93	0.48	0.00
Statewide Average	1.61	0.63	0.02

Source: ITD, Office of Highway Safety, 2001

Six locations had two or more accidents. Circumstances for each accident at these locations were similar. All of the multiple accident locations occurred where there were sharp curves in the roadway or where there was a driveway entrance.

Traffic Volumes

Classification

Fernan Lake Road is classified as a Rural Major Collector under the functional classifications defined in the American Association of State Highway and Transportation Officials (AASHTO) Policy Manual and according to the Kootenai County Area Transportation Plan (KCATP) adopted in 1998. These roads carry traffic that is primarily of intra-county rather than statewide importance, serve traffic generators of intra-county importance (e.g., schools, county parks and important mining or agricultural areas), and link these places with nearby larger towns or cities. Operating speeds are in the 40 to 48 km/h (25 to 30 mph) range. Parking along the roadway is acceptable but may be limited.

Existing and Projected Traffic Volumes

Information about traffic volumes and the mix of vehicles making up the traffic is used to determine the design standard for road improvements. Roads that carry low traffic volumes can be narrower and still safely serve travelers. As traffic volumes increase, and the percentage of trucks, bicycles, etc. increases, then the roadway must be wider to safely accommodate the higher volumes and greater mix of vehicle types.

Detailed information about the traffic in the study area was collected in July 2001 (Table 1-3). ITD conducted weekday traffic counts that included total volumes, commercial vehicle volumes and travel speeds. ESHD and the FS had previously conducted less detailed counts. ESHD collected data intermittently over the four years on Segments 1 and 2, and the FS counts traffic every year inside the IPNF boundary. ESHD and FS volumes represent the average total two-way traffic during a 24-hour period.

Table 1-3. Baseline (2001) Traffic

Date	Measured volume	Seasonal adjustment factor	AADT		Peak seasonal volume		Design-hour volume
			Total volume	Commercial volume	Total volume	Commercial volume	
Segment 1							
23 Jul 01 – 24 Jul 01	844	139%	605				
24 Jul 01 – 25 Jul 01	858	139%	615				
3 May 01 – 10 May 01	839	97%	865				
Weighted average			810	31 (3.8%)	1,125	43 (3.8%)	120
Segment 2							
23 Jul 01 – 24 Jul 01	513	144%	355				
24 Jul 01 – 25 Jul 01	523	144%	365				
3 May 01 – 10 May 01	439	97%	450				
Weighted average			430	21 (4.8%)	610	29 (4.8%)	65
			Total volume	Commercial volume	Total volume	Commercial volume	
Segment 3							
24 Jul 01 – 25 Jul 01	355	152%	235				
12 Jul 01 – 3 Dec 01	227	130%	175				
Weighted average			175	6 (3.5%)	265	9 (3.5%)	25

Note: Calculations are described in the Traffic Report (DEA, 2003)

Although Fernan Lake Road is used by recreation traffic throughout the year, traffic volumes vary month to month. Summer months typically see higher volumes with more recreational usage during both weekdays and weekends. Winter months typically see lower volumes with most recreational activity occurring on weekends.

Kootenai County projected future traffic growth for much of the county using forecasted future population, employment, and land-use estimates as part of the KCATP development process. However, no traffic volume projections were reported along Fernan Lake Road. This EIS assumes that the traffic on Fernan Lake Road will grow at the same rate as other similar roads in KCATP projections – that is, 2.5 percent per year. Table 1-4 summarizes total traffic and commercial vehicle forecasts based on population growth forecasts. Annual average daily traffic (AADT), peak season and design-hour volumes were projected based on this analysis.

Table 1-4. Estimated 2026 Traffic Volumes

Location	AADT ⁽¹⁾		Peak season ⁽²⁾		Design-hour ⁽³⁾
	Total	Commercial	Total	Commercial	Total
Segment 1	1,500	57 (3.8%)	2,085	79 (3.8%)	225
Segment 2	795	38 (4.8%)	1,145	55 (4.8%)	120
Segment 3	325	11 (3.5%)	495	17 (3.5%)	50

1. AADT volumes are estimated based on an average annual growth rate of 2.5% per year.

2. Peak season traffic volumes represent average July traffic conditions. Seasonal factors are assumed to be 139% on Segment 1, 144% on Segment 2, and 152% on Segment 3.

3. The DHV is assumed to be 15% of ADT, in accordance with AASHTO guidelines.

For Fernan Lake Road, the projected future traffic volumes will increase substantially over current volumes by 2026. The current design of Fernan Lake Road, already unsafe in some portions, will become even more dangerous as traffic increases. In addition, the increased traffic in the future will result in an increased rate of road surface deterioration.

System Linkages

Fernan Lake Road is the western leg of an existing FS loop road that provides primary access to IPNF Coeur d'Alene River Ranger District. The 125-km (75-mi) loop road consists of Forest Highway 80 (Fernan Lake Road), Forest Road 612, Forest Road 209, and Forest Highway 9 (Figure 1-3). I-90 between Kingston and Coeur d'Alene (Exits 43 and 15, respectively) completes the remaining 47 km (28 mi) of the loop. This loop is a popular afternoon drive during good weather, and it has the highest road use in the ranger district. Because it is closest to the population of Coeur d'Alene, Fernan Lake Road sees the highest usage of the FS roads that make up the loop.

Forest highways 80 and 9 are paved, but a 41-km (24.6-mi) portion of forest roads 612 and 209 is not. Improvement of the unpaved portion of the loop road is contingent on FS funding availability and environmental clearance. No such improvements are currently proposed or scheduled, and thus they do not represent cumulative effects to the proposed Fernan Lake Road improvements.

Roadway Condition

The existing Fernan Lake Road is narrow, has numerous sharp curves, a soft subgrade, a cracking road surface, and substandard horizontal alignment that limits sight distance ("blind curves"). There are no developed recreational parking areas and very few turnouts along Fernan Lake, so users park along the road, creating a safety hazard. Deficiencies are described below for each roadway segment. For discussion purposes, the road has been divided into three segments, as follows.

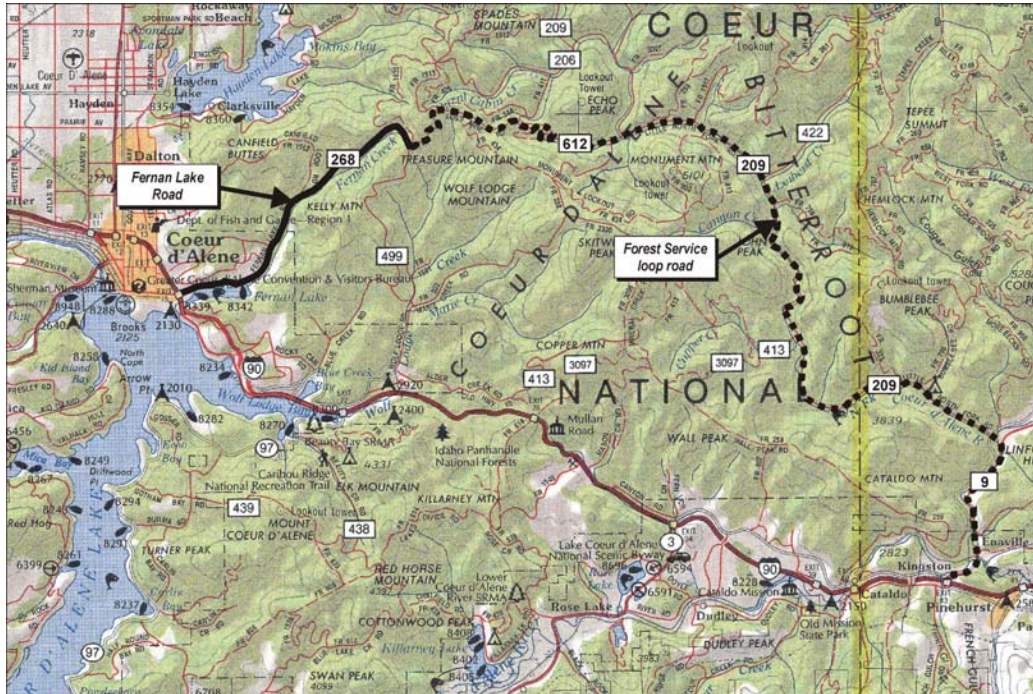


Figure 1-3. Forest Service Loop Road

Segment 1 -- Along Fernan Lake (MP 0.0 to MP 2.2)

The project begins at the eastern end of Fernan Lake Village approximately 0.7 km (0.4 mi) from the interchange with I-90. The road follows the northern edge of Fernan Lake, with the lake to the south and the steep slopes of Fernan Hill to the north. The road has no shoulders and very few narrow turnouts for parking. The lake is a popular location for fishing and boating during much of the year, but parking is very limited. Public safety is compromised when visitors park along the road, and in some cases, on the roadway itself.

In some areas, original construction of the road required cutting into argillite rock outcrops. These outcrops are degrading, and there are occasionally significant debris deposits within the roadway, requiring removal.

Poor drainage conditions and a soft subgrade have resulted in subgrade failure in several locations along the lake. Continued maintenance is required due to cracking of the road surface. The close proximity of the road to the lake edge may have exacerbated this problem, either due to the lack of lateral support or (less frequently) water infiltration.

Poor horizontal alignment does not allow sufficient sight distance for travelers and residents whose driveways access the road. Curve radii are as narrow as 30 m (98 ft) in some locations. Eight curves are tighter than desirable for the typical travel speed on the road.

Much of the road in Segment 1 is immediately adjacent to the lake at an elevation only a few feet above the water surface. Portions of the roadway are below the 100-year flood elevation (Figure 1-4). Construction of the road required cutting into the terrain in some locations.

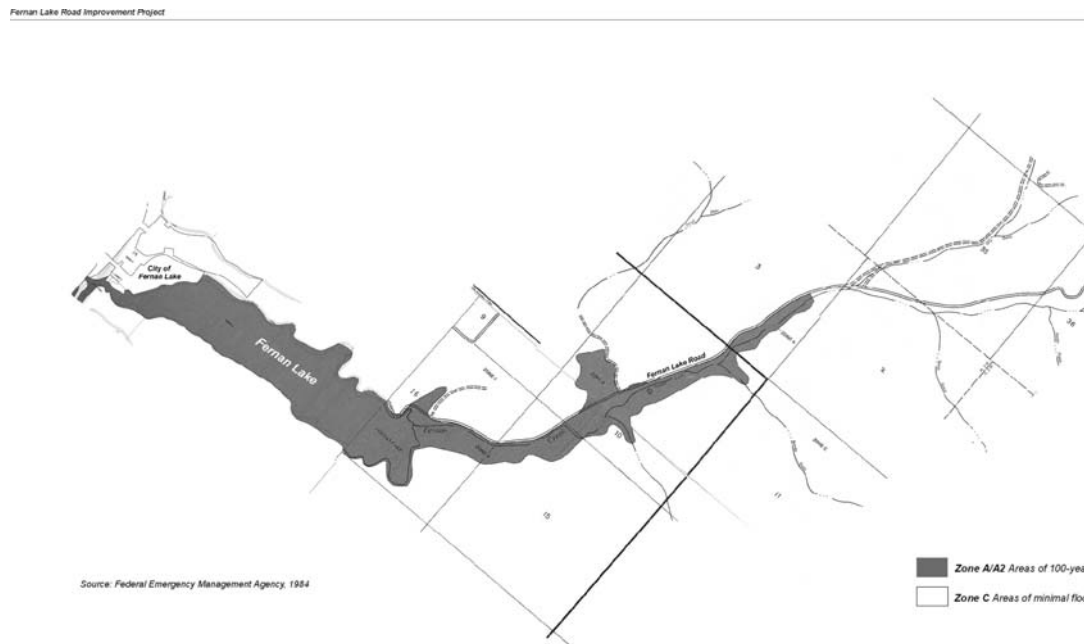


Figure 1-4. FEMA 100-year Floodplain

All of Fernan Lake Road is currently subject to load restrictions in spring and fall during freeze/thaw periods. During these breakup periods, which can last as long as two months, logging trucks and other heavy vehicles are prohibited. Load restrictions are based on the need to limit damage to the road and pavement during breakup periods and are determined by the ESHD.

At the eastern end of Fernan Lake, the road crosses wetlands in Lilypad Bay that are associated with unnamed creeks coming down from Fernan Hill. The culverts beneath the road have silted in and no longer provide unrestricted drainage flow for the creek. The road has subsided along the lake edge in this location and even with subsequent repairs, still retains a noticeable dip.

Segment 2 -- Along Fernan Creek Valley (MP 2.2 to MP 5.0)

At about MP 2.2, Fernan Lake Road leaves the lake and parallels Fernan Creek separated by a strip of wetlands that varies in width. For approximately 2.9 km (1.8 mi), the road follows the creek channel closely. It appears that landowners have altered the stream channel, directing the flow adjacent to the road in some places, in order to maximize useable agricultural area. In two places, the creek meanders across the valley floor.

There are no shoulders and few turnouts in Segment 2. Turnouts were not designed as part of the road, but have been created by users over the years.

The roadway between approximately MP 3.2 and MP 3.4 in Segment 2 is below the 100-year flood elevation. Segment 2 has a soft, low-strength subgrade that is subject to frost heaving, which has resulted in cracking and other damage to the asphalt surface. As a result, this segment of the road is subject to load restrictions in spring and fall, as described for Segment 1.

There are many degrading cut slopes in Segment 2 (as in Segments 1 and 3), that are sloughing debris into the roadway. Frequent maintenance is required to keep the rocks off the pavement.

Segment 3 -- Within the IPNF (MP 5.0 to MP 10.7)

The third segment is located entirely within the boundaries of the IPNF. Elevation increases sharply between MP 5.0 and the summit at MP 10.7 (Figure 1-5). The road was built with steep cut and fill slopes, and there is no guardrail or shoulder and few turnouts.

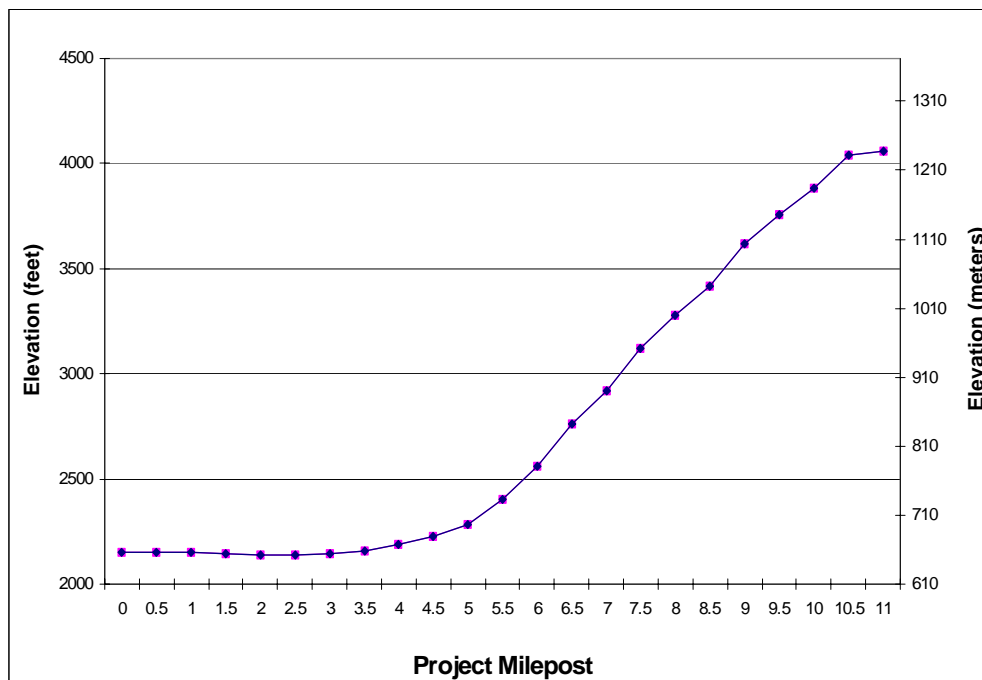


Figure 1-5. Vertical Profile of Fernan Lake Road

Drainage along most of this segment of Fernan Lake Road comes off the steep slopes (both natural and cut slopes) on the west side of the road. Flow must either cross the road or be captured by storm drains and channeled under the road. In some cases, existing drainage facilities are inadequate or have been damaged. Drainage inlet pipes intended to collect runoff and snow melt on the west side of the road have been damaged by falling rocks from the degrading cut slope above it. Most inlet pipes are rusted.

Segment 3 also has many cut slopes in rock formations that are now degrading. In addition to creating safety hazards from rocks sloughing onto the pavement, debris fills up drainage ditches on the west side of the road and reduces drainage capacity in the ditches.

Without improvements to Fernan Lake Road, the deficiencies identified for the three segments would become more severe, both over time and with increased traffic volumes. Improvements to the sub-grade, drainage capacity, drainage facilities, cut slopes, asphalt surface, culverts, etc., are needed to correct the existing road deficiencies.

Maintenance Needs

ESHD expends a great deal of both time and money trying to maintain Fernan Lake Road. Maintenance is needed more frequently than typical because of the degrading cut slopes, soft subgrade, cracking of the road surface, and heavy use of the road. These road deficiencies result in environmental degradation (untreated runoff and sedimentation into streams and the lake) as well as safety issues for drivers and recreational users.

As traffic volumes increase over time, and unless the root causes of the need for maintenance are addressed, the maintenance needs of the roadway will only increase. However, budget restrictions limit the amount of maintenance that ESHD is able to provide for the road. These budget restrictions are not likely to change in the future.

The cost of maintenance to ESHD would be reduced as a result of this project. Improvements to the subgrade, drainage capacity, drainage facilities, cut slopes, asphalt surfaces, culverts, etc. would reduce the amount of time and money spent for maintenance along the project. Surface repairs would be needed less frequently and clearing of rocky debris from disintegrating cut slopes would not be required as often. An improved roadway would require less time and money to maintain.

Environmental Needs

Fernan Lake Road crosses very scenic and environmentally sensitive areas as it climbs from Fernan Lake Village to Fernan Saddle in the IPNF. The corridor includes the aquatic habitat of the lake, the extensive wetlands system in Fernan Creek valley and the montane forests of the IPNF. These diverse habitats are rich in wildlife. The road passes through rock slopes and ranchland as well. Fernan Lake Road offers scenic views across the lake and of the surrounding hillsides to the south that many visitors as well as area residents enjoy.

The sensitivity of the area to impacts created by the project must be considered. As a part of the project, an extensive information gathering effort was undertaken to identify environmental issues and concerns that must be taken into account in the design of any safety improvements. Five key issues were identified: geology, topography, and soils; water quality; plants and habitats; fish and wildlife; and the recreational uses of the area.

Geology, Topography, and Soils

Fernan Lake and the area of potential effect for the project are located in the Coeur d'Alene Basin. This area is characterized by steep slopes (10 to 40 percent on ridges and up to 60 percent along draws). The road climbs from an elevation of approximately 655 m (2,150 ft) at Fernan Village to 1,237 m (4,061 ft) at Fernan Saddle (Figure 1-5).

The steep mountainous terrain and the original methods of road building have created numerous steep and unvegetated cut slopes along the road. The predominant rock found in cut slopes along this road is argillite. Although the rock is fairly hard, the road crosses bedding planes in some sections at an angle that inclines directly toward the road. The soils and geologic formations in the project area are eroded and there are several degrading cut slopes along the existing roadway. Rock fall on the roadway poses a threat to the safety of drivers until detected and removed by county maintenance crews. Wider ditches should be provided in some locations along the road to catch these rocks before they reach the roadway.

In recent years, lot development on Fernan Hill triggered a landslide that impacted local utilities. Additionally, a major landslide associated with a road project dumped massive quantities of sediment in Coeur d'Alene Lake.

Water Quality

For the first 2.2 miles of the project, Fernan Lake Road is located immediately adjacent to the lake. From MP 2.2 to approximately MP 4.0, the road parallels or crosses wetlands in the Fernan Creek valley. Currently, the road has no stormwater quality treatment facilities, and run-off from the road and adjacent cut slopes flows directly into the lake or creek.

Many of the slopes along Fernan Lake Road are too steep and unstable to establish or retain vegetation. The existing steep, unvegetated cut slopes above the road erode during storms, allowing soil and rock to reach the roadway and enter streams and the lake. Vegetation between the road and the lake has been trampled by anglers, leaving the soil bare and subject to erosion. Soil erosion also results in the loss of important topsoil and destruction of mature vegetation. Water quality concerns led to the recent development of a management plan for Fernan Lake and its watershed (FLWTAC, 2003).

Agricultural activities in Segment 2 have disturbed or removed riparian vegetation, and in places landowners have reconfigured the stream channel. These alterations increase the likelihood of stream bank erosion and sediment transport to the lake. According to IDEQ studies, stormwater runoff and riparian disturbance along Fernan Creek appear to be the major sources of nutrient and sediment input into Fernan Lake. The lake is relatively shallow (average depth approximately 4.5 m) and has a strong susceptibility toward man-made eutrophication.

Stormwater runoff treatment facilities such as vegetated swales and sediment basins would reduce the amount of sediment entering streams and the lake. Treating cut slopes to permit revegetation would provide additional protection from runoff and stabilization

of riparian stream habitat, both of which are essential to maintaining good water quality and fishing/recreational opportunities in Fernan Lake.

Plants and Habitats

Fernan Lake Road crosses a wide variety of habitats as it climbs from the shores of the lake to the saddle, but much of the project corridor passes through second growth Douglas fir (*Pseudotsuga menziesii*) forest. In addition, there is white alder (*Alnus incana*)/Douglas spirea (*Spiraea douglasii*) wetland, mountain maple riparian forest, and herb-dominated communities on rock outcroppings along the route.

Suitable habitat is found in the area for two federally listed threatened plant species, Ute ladies' tresses (*Spiranthes diluvialis*) and water howellia (*Howellia aquatilis*) as well as one species that is proposed for listing as threatened, Spalding's catchfly (*Silene spaldingii*). In addition, 31 species that the FS considers sensitive and 22 FS Species of Concern may occur along the route. The habitats along the road where sensitive species could occur are currently impacted by the continued erosion and sedimentation from unvegetated cut slopes and from the road itself. Federal law mandates avoiding impacts to listed species or their habitat if at all possible. Proposed road improvements would include stormwater quality treatment facilities (e.g., vegetated swales, sediment basins) and revegetation of existing and new cut slopes. This would reduce sedimentation of wetland, riparian and aquatic habitat for sensitive species and revegetate degraded areas.

Fish and Wildlife

The project area supports a wide variety of wildlife, including species listed as threatened or endangered under the Endangered Species Act (ESA). There is a bald eagle (Threatened) nest on the lake and the area is rich in migratory birds. The USDI Fish and Wildlife Service (FWS) and FS consider that suitable habitat is present in the area for gray wolf (Endangered), Canada lynx (Threatened) and grizzly bear (Threatened), but there are no known populations of these species currently in the watershed. In addition, there is suitable habitat for one fish species listed as Threatened under the ESA, the Bull trout (*Salvelinus confluentus*), although the Fernan drainage no longer contains the species nor is it designated as critical habitat for recovery of the species. There is also suitable habitat for two IPNF sensitive fish species; torrent sculpin (*Cottus rhotheus*) and west slope cutthroat trout (*Onchorhynchus clarki*). Suitable habitat occurs for twelve IPNF sensitive wildlife species. Residents and visitors to the area report that the presence of wildlife is one of the most attractive features of the area.

The quality of the lake and wetland habitat is currently threatened by erosion from existing unvegetated cut slopes along the road as well as runoff from the road itself. Proposed road improvements would revegetate cut slopes to reduce erosion and provide water quality treatment for storm water runoff so that contamination of the lake, streams, and wetlands would be reduced over current levels.

Needs of Existing and Planned Land Uses

Fernan Lake Road is the primary recreational access to Fernan Lake. It also provides access to residences, an established shooting range, and approximately 500,000 acres of the IPNF, which includes campgrounds, picnic areas, and snowmobiling and hiking trails in Dry Gulch, Jungle Gulch, Kelly Mountain, Huckleberry Mountain, Canfield Butte and Treasure Mountain.

Based on actual traffic counts made by the FS just above the shooting range, Fernan Lake Road recorded about 100,000 Recreation Visitor Days (RVD) in 1998. In 1999, this number increased to 107,000 RVDs. There has been a steady increase in the number of visitors over the past 12 years, roughly doubling between 1989 and 1999. Because these numbers are based on IPNF use only and do not include recreational users of the road below the IPNF boundary (where Fernan Lake fishing and boating activities occur), the actual number of recreational visitors using this road is probably considerably higher.

Suburban and rural residential uses predominate in Segments 1 and 2, and the Kootenai County Comprehensive Plan anticipates that these will continue to be the primary private land uses along the road. Residential traffic currently represents an average of 200 trips daily. This is 25 percent of the traffic on Segment 1 and 15 percent of the trips on Segment 2. These proportions are anticipated to remain constant (DEA, 2003).

The mix of traffic using the route includes cars, trucks, buses, logging trucks, recreational vehicles, motorcycles and bicycles. Fernan Lake Road is a major access road to snowmobiling areas as well as fishing, hunting, camping, hiking, picnicking, woodcutting, and huckleberry picking. Although the largest single traffic generator on Fernan Lake Road is opening day of hunting season, use of the road and the IPNF is year round. The road serves the Honeysuckle and Bumblebee campgrounds with a total of 38 camp sites, three campgrounds farther into the IPNF (each with more than 35 camp sites), the Shoshone Dump Station and Magee Historic Site (each with picnic facilities), and more than 250 km (156 mi) of snowmobile trails. In addition, there is unlimited, undeveloped camping and picnicking throughout this portion of the IPNF.

The Fernan Rod & Gun Club operates a shooting range under a special use permit from IPNF adjacent to Fernan Lake Road at approximately MP 5.3. Approximately 3,000 to 4,000 visitors are estimated to use this facility annually. Use increases in the late summer and fall around hunting season. The Fernan Rod & Gun Club is planning to build a new facility that will serve as a joint civilian, military and police firing range on the site of their current special use permit.

Currently there are few places for visitors to park along Fernan Lake Road, so parking occurs on the roadway itself. There are no bike lanes or pedestrian paths either. As a result, bikes share the roadway with cars, recreational vehicles, and logging trucks. Anglers stand or walk along the roadway as they fish. As the number of recreational users of Fernan Lake, private facilities (gun range, etc.) and FS facilities increases over time, additional pressure will be placed on Fernan Lake Road for parking and access to

adjacent recreation, creating safety hazards for all road users. Improvements to Fernan Lake Road would provide off-road parking and safe access.

1.3 PROJECT OBJECTIVES

The overall purpose of the project is to improve, reasonably and cost effectively, the safety of Fernan Lake Road, while minimizing adverse impacts to sensitive environmental resources. Project objectives were determined based on the needs identified in the previous sections of this chapter. The following project objectives carry equal weight in evaluating alternatives and selecting appropriate actions. Project alternatives must meet these objectives reasonably and cost effectively.

Transportation Objectives

1. Improve access to the IPNF from the Coeur d'Alene area.
2. Improve the safety for current and future travelers, including bicyclists, by providing a consistent roadway geometry and safety features such as guardrail, signs and striping to alert motorists to potential hazards.
3. Provide a roadway width and surface capable of safely accommodating existing and projected 2026 traffic.

Maintenance Objectives

4. Provide roadway improvements that reduce road maintenance costs.
5. Repair existing roadway deficiencies (soft subgrades, inadequate drainage, degrading cut slopes etc.) to reduce maintenance frequency and cost.

Environmental Objectives

6. Repair unstable side slopes to reduce sedimentation of streams and the lake and allow revegetation.
7. Avoid, minimize or mitigate long-term adverse impacts of the road to the environment. Protect sensitive species and habitats. Minimize short-term adverse impacts from road improvements.
8. Correct roadway drainage problems and protect the water quality of Fernan Lake and Fernan Creek.

Land Use and Recreation Objectives

9. Provide off-road parking for recreational users to enhance their safety.
10. Improve recreational lake access and protect the area from harm as a result of recreational use.
11. Minimize right-of-way acquisition, particularly through private land.
12. Comply with applicable guidelines from the IPNF Forest Plan and Kootenai County plans and ordinances.